Model APS-410
Installation Manual

RF Programmable Features :

Feature Selection	1 Chirp	2 Chirps	3 Chirps	4 Chirps	Default
1st Door L/UL	1 Sec.	3.5 Sec.	1 Sec L, Dbl. U/L		1 Sec.
2nd Accy Lock	Auto Lock On	Auto Lock Off			Auto Lock Off
3rd Accy. UL	Auto UL Dr	Auto UL All	Auto UL Off		Auto UL Off
4th Non Functional					NA
5th Passive Locks	Passive	Active			Active
6th Passive/Active Arm	Passive Arm	Active Arm			Active Arm
7th Voltage Sense	Voltage Sense	Hardwire			Hardwire
8th Siren/Horn	Siren/Horn	Siren Only	Horn Only		Siren/Horn
9th Horn Chirp	10mS	16mS	30mS		16mS
10th Override Method	Custom Code	Valet			Valet
11th Two Step Unlock	On	Off			Off
12th Chirp Delete From Tx	On	Off			Off

To program these selectable features;

	Action	System Response
	Turn ignition on	No response
	Press and release the valet switch 3 times	1 Chirp - LED 1 flash
	Within 3 seconds, turn ignition Off	Short chirp, then long chirp
First	Then On	1 chirp = 1 second door locks
	Press transmitter Lock button to change	2 chirps = 3.5 second door locks
	Press transmitter Lock button to change	3 chirps = 1 sec. lock, dbl 1 sec. unlock
	or	
Second	Press and release the valet switch	2 chirps = auto locks off
	Press transmitter Lock button to change	1 chirp = auto locks on
	or	
Third	Press and release the valet switch	3 chirps = auto unlock off
	Press transmitter Lock button to change	1 chirp = auto unlock drivers door only
	Press transmitter Lock button to change	2 chirps = auto unlock all doors
	or	
Fourth	Press and release the valet switch	Non Functional
	or	
Fifth	Press and release the valet switch	2 chirps = active locks
	Press transmitter Lock button to change	1 chirp = passive locks
	or	
Sixth	Press and release the valet switch	2 chirps = active arming
	Press transmitter Lock button to change	1 chirp = passive arming
	or	

Seventh	Press and release the valet switch	2 chirps = hardwire
	Press transmitter Lock button to change	1 chirp = voltage sense
	or	
Eighth	Press and release the valet switch	1 chirp = siren and horn output
	Press transmitter Lock button to change	2 chirps = siren output only
	Press transmitter lock button to change	3 chirps = horn output only
	or	
Ninth	Press and release the valet switch	2 chirps = horn chirp output 16mS
	Press transmitter Lock button to change	3 chirps = horn chirp output 30mS
	Press transmitter Lock button to change	1 chirp = horn chirp output 10 mS
	or	
Tenth	Press and release the valet switch	2 chirps = valet switch override operation
	Press transmitter Lock button to change	1 chirp = custom code override operation
	or	
Eleventh	Press and release the valet switch	2 chirps = 2 step unlock off
	Press transmitter Lock button to change	1 chirp = 2 step unlock on
	or	
Twelfth	Press and release the valet switch	2 chirps = chirp delete from transmitter inactive
	Press transmitter Lock button to change	1 chirp = chirp delete from transmitter active
	Press and release the valet switch	Exit program mode
	or	
	Turn ignition key off	Exit program mode

Note: Once you enter the feature programming mode, do not allow more than 15 seconds to pass between steps, or the programming will be terminated.

INSTALLATION OF MAJOR COMPONENTS

Note: This system allows the transmitter to be programmed for single button lock/unlock or separate button lock/unlock. The receiver is set up as follows:

Channel #1 = Lock/Unlock/Unlock 2 &Panic
Channel #2 = If Programmed, Unlock/Unlock 2 & Panic
Channel #3 = Channel 3 & Alternate Channel 3
Channel #4 = Channel 4 Output
Channel #5 = Channel 5 Output (If so Equipped)

During the program routine, if a transmitter button is programmed into receiver channel 2, then the unit will always have separate lock/unlock from that transmitter.

If during the program sequence receiver channel 1 is programmed, and received channel 2 is skipped over, as indicated in the transmitted program guide, then the unit will operate as a single button lock/unlock unit from that transmitter.

It is possible to have one transmitter programmed for single button lock/unlock, and one transmitter programmed for separate button lock/unlock if the customer so desires.

If you inadvertently incorrectly program the transmitter, please read the information on re-prioritizing found in the transmitter programming guide.

Control Module:

Select a mounting location inside the passenger compartment (up behind the dash), and secure using the two screws provided. The control module can also be secured in place using cable ties.

Do not mount the control module in the engine compartment, as it is not waterproof. You should also avoid mounting the unit directly onto factory installed electronic components. These components may cause RF interference, which can result in poor transmitter range or intermittent operation.

Siren:

Select a mounting location in the engine compartment that is well protected from access below the vehicle. Avoid areas near high heat components or moving parts within the engine compartment. To prevent water retention, the open end of the siren must be pointed downward when mounted.

Mount the siren to the selected location using the screws and bracket provided.

Hood or Trunk Pin Switch:

A pin switch is included for use in protecting the hood or trunk (or hatchback) of the vehicle. The switch must always be mounted to a grounded, metal surface of the vehicle. It is important to select a location where water cannot flow or collect, and to avoid all drip gutters on hood and trunk fender walls. Choose locations that are protected by rubber gaskets when the hood or trunk lid is closed.

The pin switch can be mounted using the bracket provided, or direct mounted by drilling a ¼" diameter mounting hole. Keep in mind that when properly mounted, the plunger of the pin switch should depress at least ¼" when the hood or trunk lid is closed.

Dash Mounted L.E.D.:

A small red L.E.D. is included that will serve as a visual indicator of the alarm status. It should be installed in the dash, located where it can be easily seen from outside the vehicle, yet not be distracting to the driver.

Once a location has been selected, check behind the panel for wire routing access, and to confirm the drill will not damage any existing components as it passes through the panel.

Drill a ¼ " diameter hole, and pass the red and blue wires from the L.E.D. through the hole, from the front of the panel. Firmly press the body of the L.E.D. into the hole until fully seated.

Valet Switch:

Select a mounting location for the switch that is easily accessible to the driver of the vehicle. The switch does not have to be concealed, however, concealing the switch is always recommended, as this provides an even higher level of security to the vehicle.

The valet switch can be mounted to the lower side of the dash by drilling a ¼ " diameter hole in the selected location.

Be sure to check behind the dash for adequate clearance for the body of the switch, and to confirm that the drill will not damage any existing components as it passes through the dash. Route the two pin connector toward the control module.

Shock Sensor:

Select a solid mounting surface for the shock sensor on the firewall inside the passenger compartment, and mount the sensor using the two screws provided. The shock sensor can also be secured to any fixed brace behind the dash using tie straps.

Whichever mounting method is selected, make certain that the sensitivity adjustment is accessible for use later in the installation.

WIRING THE SYSTEM

Large 8-Pin Edge Connector:

Red/White (5Amp) & Red (15Amp) Fused Wires: + 12 VDC CONSTANT BATTERY SOURCE

This wire controls the sensitivity of the voltage sensing circuit, which detects the turning on of an interior light when a door is opened. It will also detect the switching on of parking or headlamps, and in many cases will trigger the alarm when a thermostatically controlled electronic radiator cooling fan switches on.

When installing this system into vehicles with electronic " after fans ", it is recommended you disable the voltage sense circuit.

In voltage sensing applications, the closer to the battery that the red wire is connected, the less sensitive the voltage sense circuitry will be. Moving this connection point to the fuse panel will increase the sensitivity, and connecting to the courtesy lamp fuse in the vehicle will provide maximum sensitivity of the voltage sense circuit. Be certain to set selectable feature # 7 to 1 chirp, Voltage Sense On.

When hardwiring the control module to pin switches at all entry points, the voltage sense circuit must be disabled.

Orange Wire: 300 mA GROUND OUTPUT WHEN ARMED - N. C. STARTER DISABLE **(Optional Relay Required)**

This wire is provided to control the starter cut relay. Connect the orange wire to terminal 86 of the relay. Connect relay terminal 85 to an ignition wire in the vehicle that is live when the key is in the on and crank positions, and off when the key is in the off position. (This is where the yellow wire from the alarm should be connected).

Cut the low current starter solenoid wire in the vehicle, and connect one side of the cut wire to relay terminal 87A. Connect the other side of the cut wire to relay terminal 30.

Note: This is a normally closed starter cut arrangement, and when power is removed from the security system, the starter disable feature will not operate, allowing the vehicle to start. Audiovox does not recommend using the Orange wire to interrupt anything but the starting circuit of the vehicle.

Dark Blue Wire : DELAYED 300 mA PULSED OUTPUT / CHANNEL 3

The dark blue wire pulses to ground via an independent RF channel from the keychain transmitter. This is a transistorized, low current output, and should only be used to drive an external relay coil.

WARNING: Connecting the dark blue wire to the high current switched output of trunk release circuits, some remote start trigger inputs, will damage the control module.

Connect the dark blue wire to terminal 86 of the AS - 9256 relay (or equivalent 30 A automotive relay), and wire the remaining relay contacts to perform the selected function of channel 3.

White w/ Black Trace Wire: POSITIVE OUTPUT TO SIREN

Route this wire through a rubber grommet in the firewall, and to the siren location.

Connect the white / black wire to the positive wire of the siren. Secure the black ground wire of the siren to chassis ground.

Black Wire: CHASSIS GROUND

Connect this wire to a solid, metal part of the vehicle's chassis. Do not confuse this wire with the thin black antenna wire that exits the control module independently.

White Wire : + 12 VDC PULSED PARKING LIGHT OUTPUT (15 AMP MAX)

This wire is provided to flash the vehicle's parking lights. Connect the white wire to the positive side of one of the vehicle's parking lights.

Wiring The 8 Pin Mini Edge Connector:

Dark Green w/ Black Trace Wire: LATCHING OUTPUT / CHANNEL 4

The green w/ black trace wire latches to ground via an independent RF channel from the keychain transmitter. This is a transistorized, low current (300 mA) output and should only be used to drive an external relay coil.

This wire provides an immediate ground signal and stays at ground for as long as the button(s) on the keychain transmitter remains pressed.

WARNING ! Connecting the dark green w/ black trace wire to the high current switched output of trunk release circuits will damage the control module.

Connect the dark green w/ black trace wire to terminal 86 of the AS 9256 relay (or an equivalent 30 Amp automotive relay), and wire the remaining relay contacts to perform the selected function of channel 4.

Dark Blue w/Black Trace Wire: Alternate Channel 3 Output (Dbl. Push Required)

This wire is controlled from the transmitter button programmed to the receiver's channel 3. By double pressing the transmitter button, this output will become active for 1 second. This is a transistorized, low current (300 mA) output, designed to provide an output only when the transmitter is intentionally operated, such as is the case with remote start add on modules. If you require more than 300mA drive from this output, you must drive an external relay coil, and arrange the relays contacts to preform the specified function. NOTE: Pressing the transmitter button, then immediately pressing and holding it will cause this output to be active as long as the transmitter button is depressed.

Black w/ White Trace Wire: 300 mA Horn Output

The black w/ white trace wire is provided to beep the vehicle's horn. This is a transistorized low current output, and should only be connected to the low current ground output from the vehicle's horn switch.

If the vehicle uses a + 12 VDC horn switch, then connect the black w/ white trace wire to terminal 86 of the AS 9256 relay (or an equivalent 30 Amp automotive relay), and connect relay terminal 85 to a fused + 12 VDC battery source. Connect relay terminal 87 to the vehicle's horn switch output and connect relay terminal 30 to a fused + 12 VDC battery source.

Orange w/ White Trace Wire: 300 mA GROUND OUTPUT WHEN DISARMED - N. O. STARTER DISABLE **(Optional Relay Required).**

This wire is provided to control the starter cut relay. Connect the orange w/white wire to terminal 86 of the relay. Connect relay terminal 85 to an ignition wire in the vehicle that is live when the key is in the on and crank positions, and off when the key is in the off position. (This is where the yellow wire from the alarm should be connected).

Cut the low current starter solenoid wire in the vehicle, and connect one side of the cut wire to relay terminal 87. Connect the other side of the cut wire to relay terminal 30.

Note: This is a normally opened starter cut arrangement and when power is removed from the security system, the starter disable feature will remain operational, and the vehicle will not start. Audiovox does not recommend using the Orange w/ White trace wire to interrupt anything but the starting circuit of the vehicle.

Dark Green Wire: (-) INSTANT TRIGGER ZONE

This is an instant on ground trigger wire. It must be connected to the previously installed hood and trunk pin switches.

Brown Wire: - DOOR TRIGGER

If the vehicle's courtesy light switches have a (-) ground output when the door is opened (GM and most Imports), you must connect this wire to the negative output from one of the door switches.

WARNING: Do not use the brown wire if the vehicle has + 12 volt output type door switches. (see Purple Wire).

Purple Wire: + DOOR TRIGGER

If the vehicle's door courtesy light switches have a + 12 volt output when the door is opened (most Fords and some Imports), you must connect this wire to the positive output from one of the door switches.

WARNING: Do not use the purple wire if the vehicle has ground output type door switches. (see Brown Wire).

Yellow Wire: + 12 VDC IGNITION SOURCE

Connect this wire to a source that is live when the key is in the on and crank positions. Be sure that this source is off when the key is in the off position.

2 Pin Blue Connector: VALET SWITCH

Route the grey and black wires in the 2 pin connector from the valet switch to the control module, and plug it into the mating blue connector on the side of the module.

2 Pin White Connector: DASH MOUNTED L.E.D.

Route the red and blue wires in the 2 pin white connector from the L.E.D. to the control module, and plug it into the mating white connector on the side of the module.

4 Pin White Connector : SHOCK SENSOR

Route the red, black, blue, and green wires in the 4 pin white connector from the shock sensor to the control module, and plug one end into the shock sensor, and the other end into the mating white connector on the side of the module.

Red / Green / Red w/Black Trace 3 Pin White Connector : Door Lock Outputs

The Red and Green wires will provide either a pulsed ground output to the factory door lock control relay, or a pulsed + 12 volt output to the factory door lock control relay. In either case, the maximum current draw through these outputs must not exceed 300 mA. The Red w/Black trace wire will provide a pulsed ground only, and will only provide an output when the unlock button of the transmitter is pressed a second time after a first unlock command was issued. This is used for second step unlock or all doors unlock in a two step circuit. In this arrangement, Red, or Green is used to control the drivers door unlock relay, and the Red/Black will be used to control unlock of all other doors.

3 Wire Ground Switched Single Step Door Locks

In this application, the **red wire** provides a ground pulse during arming, or the **pulsed ground lock** output. Connect the red wire to the wire that provides a low current ground signal from the factory door lock switch to the factory door lock control relay.

The **green wire** provides a ground pulse during disarming, or the **pulsed ground unlock** output. Connect the green wire to the wire that provides a low current ground signal from the factory door unlock switch to the factory door unlock control relay.

Red/Black Not Used.

3 Wire Ground Switched 2 Step Door Locks

In this application, the **red wire** provides a ground pulse during arming, or the **pulsed ground lock** output. Connect the red wire to the wire that provides a low current ground signal from the factory door lock switch to the factory door lock control relay.

The **green wire** provides the first ground pulse during disarming, or the **drivers door pulsed ground unlock** output. Connect this wire to the **drivers door unlock** relay that requires a low current ground signal to unlock only the drivers door. If the vehicle does not have a separate drivers door relay, one will have to be added. Locate the drivers door unlock motor wire and cut it at a convenient location to allow wiring of an optional relay. Connect the door side of the cut wire to terminal 30 of the optional relay added. Connect the vehicle side of the cut wire to terminal 87a of the optional relay added. Connect the green wire of the 3 pin harness to terminal 86 of the optional relay added. Connect terminal 85 of the optional relay added to a fused constant + 12 volt source. Most vehicles door lock/unlock motor legs rest at ground, and switch +12 volts to the door lock/unlock motor legs for operation, if this is the case in the vehicle you are working on, connect the remaining terminal, 87, to a fused + 12 volt source. In the rare instance that the vehicle door lock/unlock motor legs rest at + 12 volts and switches ground to the door lock/unlock motors, connect he remaining terminal, 87, to chassis ground.

The Red/Black wire provides a pulse ground output when the unlock button of the transmitter is pressed a second time after disarming. Connect the Red/Black wire to the wire that provides a low current ground signal from the factory door unlock switch to the factory door lock control relay.

3 Wire Positive Single Step Door Locks

In this application, the **red wire** provides a positive pulse during disarming, or the **pulsed + 12 volt unlock** output. Connect the red wire to the wire that provides a low current positive signal from the factory door unlock switch to the factory door unlock control relay.

The **green wire** provides a positive pulse during arming, or the **pulsed + 12 volt lock** output. Connect the green wire to the wire that provides a low current positive signal from the factory door lock switch to the factory door lock control relay.

3 Wire Positive Switched 2 Step Door Locks

The **green wire** provides a positive pulse during arming, or the **pulsed + 12 volt lock** output. Connect the

green wire to the wire that provides a low current positive signal from the factory door lock switch to the factory door lock control relay.

The **red wire** provides a positive pulse during disarming, or the **drivers door pulsed positive unlock** output. Connect this wire to the **drivers door unlock** relay that requires a low current positive signal to unlock only the drivers door. If the vehicle does not have a separate drivers door relay, one will have to be added. Locate the drivers door unlock motor wire and cut it at a convenient location to allow wiring of an optional relay. Connect the door side of the cut wire to terminal 30 of the optional relay added. Connect the vehicle side of the cut wire to terminal 87a of the optional relay added. Connect the red wire of the 3 pin harness to terminal 86 of the optional relay added. Connect terminal 85 of the optional relay added to chassis ground. Most vehicles door lock/unlock motor legs rest at ground, and switch +12 volts to the door lock/unlock motor legs for operation, if this is the case in the vehicle you are working on, connect the remaining terminal, 87, to a fused + 12 volt source. In the rare instance that the vehicle door lock/unlock motor legs rest at + 12 volts and switches ground to the door lock/unlock motors, connect he remaining terminal, 87, to chassis ground.

The Red/Black wire provides a pulse ground output when the unlock button of the transmitter is pressed a second time after disarming. Because the vehicle you are working on requires a positive pulse from the factory door lock switch to the factory door lock control relay, you will have to add a relay to invert the output polarity of this wire. Connect the Red/Black wire to terminal 86 of the optional added relay. Connect terminal 85 & 87 to a fuse + 12 volt source. Connect terminal 30 to the low current door unlock wire from the factory door switch to the door unlock control relay.

Resistive Circuits, As Well As 4 Wire Polarity Reversal and 5 Wire Alternating 12 Volt Door Lock Control Circuits

These applications require the use of additional components which may include relays, fixed resistors, or for convenience, the AS 9159 Door Lock Interface. Refer to the AUDIOVOX Door Lock Wiring Supplement and or the Audiovox fax back service for information on your particular vehicle for properly connecting to these types of circuits.

COMPLETING THE INSTALLATION

Antenna Wire: Be sure to extend the thin black antenna wire to it's full length, and cable tie into place where it cannot be damaged. Avoid wrapping this wire around major, high current wire looms.

Adjusting the Shock Sensor: If used, the sensitivity of the pre - detect circuit is automatically set 30% less sensitive than the full trigger circuit.

Using a small screwdriver, gently turn the adjustment screw fully counterclockwise. (DO NOT over turn this screw. Maximum rotation for this adjustment is 270°). Close the hood and trunk lids, and arm the alarm. Wait 6 seconds for the accessories trigger zone to stabilize, then firmly strike the rear bumper with the side of a closed fist considering the amount of force required to break a window.

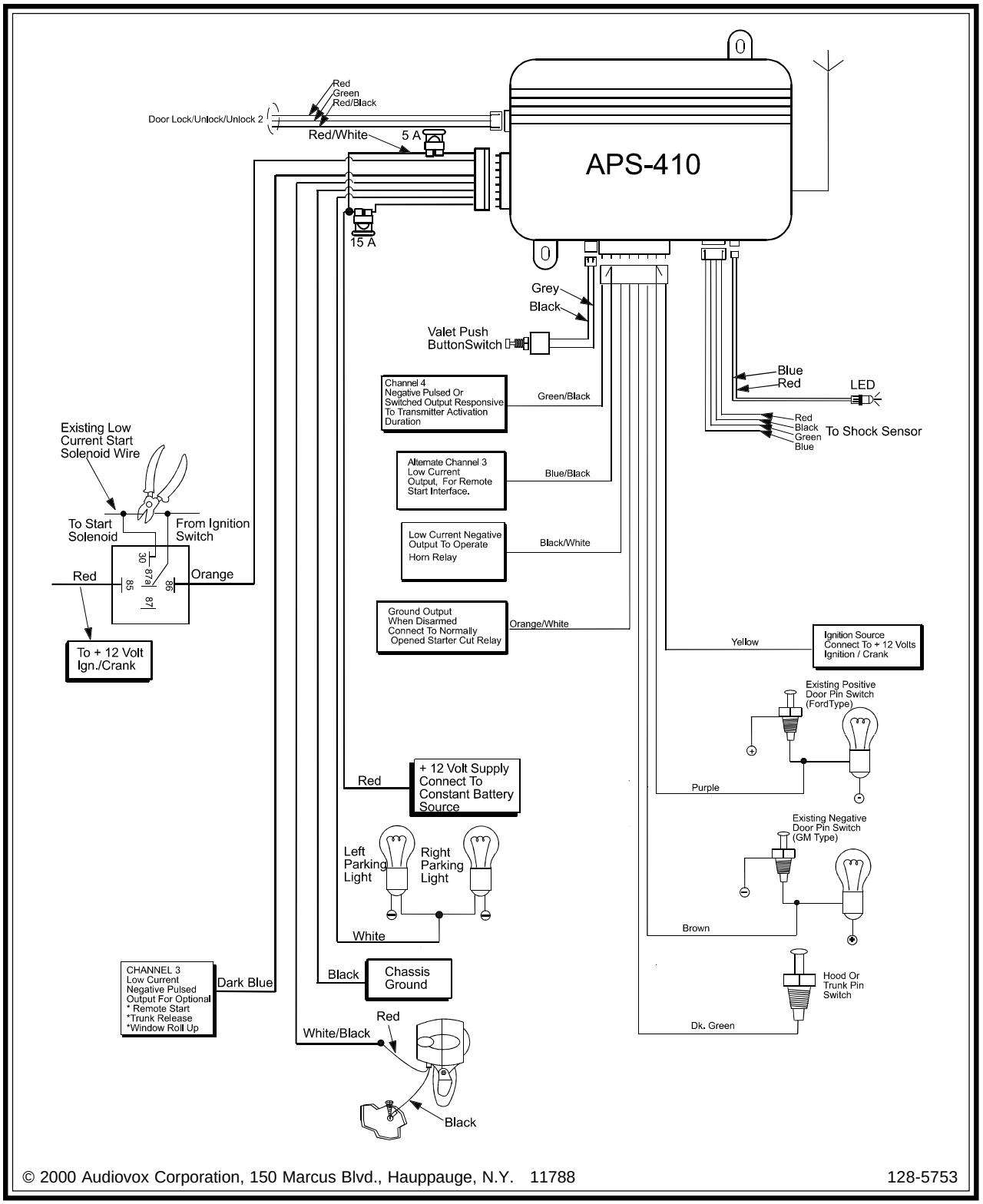
CAUTION: Never perform this test on the vehicle's glass, as you may break the window.

Turn the adjustment screw clockwise (increasing sensitivity) about ¼ turn and re-test. Repeat this procedure until the alarm sounds. Ultimately, one firm strike to the rear bumper will cause the alarm to emit pre-detect warning tones.

WARNING ! Setting the sensitivity too high can cause false alarms due to noise vibrations from passing trucks and heavy equipment. To decrease sensitivity, turn the adjustment screw counter clockwise.

Wire Dressing: Always wrap the alarm wires in convoluted tubing, or with a spiral wrap of electrical tape. Secure these looms along the routing using cable ties. This will ensure that the alarm wires are not damaged by falling onto hot or sharp moving surfaces in the vehicle.

Operation: Take a few moments to check off the appropriate option boxes in the owner's manual, and to fully explain the operation of the system to your customer.



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